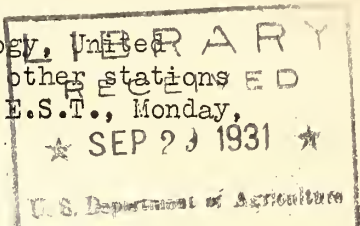


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THE HESSIAN FLY

A radio talk by Dr. W. H. Larrimer, Bureau of Entomology, United States Department of Agriculture, through Station WRC and 43 other stations associated with the National Broadcasting Company, at 12:53, E.S.T., Monday, September 14, 1931.



The Hessian fly is one of the insects that does not thrive especially well in dry weather. Throughout most of the main winter-wheat growing area of the country, the 1930 drought reduced the abundance of the fly. At every stage, including spring, summer, and fall, weather conditions were against the fly; consequently, there was no general outbreak this year over any considerable area. In a few sections, where local rains occurred early last fall, resulting in the growth of volunteer wheat, and where some wheat was sown early, there was a correspondingly heavier infestation--but in most cases these were of a local nature.

The season of 1931, however, was in general much more favorable than that of 1930 for the development of the Hessian fly and consequently, while no general outbreak occurred, there has been a gradual building-up of fly abundance so that it now occurs in threatening numbers in parts of several States. This is particularly true for some scattered localities in Ohio, for north-central and south-western Indiana, southern Illinois, central and southern Missouri, western Kansas, southern Nebraska, and northeastern Oklahoma. The fly is present in smaller numbers over much of the remainder of the winter-wheat belt but not abundant enough to produce an outbreak this fall unless weather conditions are unusually favorable. Rainfall and high humidity, combined with moderate temperatures, for two or three consecutive seasons are the conditions which bring on severe general outbreaks.

You will remember that there are usually two main generations of the fly each year -- one in the spring and one in the fall. In each generation, it passes through four different forms, so entirely unlike in appearance as to confuse the average man. The fly itself is very small; only about one-tenth of an inch long -- the body of an obscure dark color and formed much like a small mosquito. The tiny, slightly reddish eggs are placed in the grooves of the upper surface of the young wheat leaves. When you look for them, allow sunlight to fall directly upon the infested leaf. The small larvae which hatch from these eggs crawl down to the base of the leaves and feed on the sap of the plant. At full growth they somewhat resemble grains of rice. From this stage they transform to the brown flaxseeds you find in the summer and winter months on infested wheat.

The chief host plant of the Hessian fly is wheat, although rye and barley are also attacked; oats is never injured.

The secret of control is to time the seeding of wheat so that the young plants do not appear above the ground until the adult flies have emerged from their over-summering flaxseeds. The flies live only a day or two and, if they find no young wheat, die without finding suitable place to lay their eggs.

I have just returned from the area including the Northern Great Plains States where grasshoppers have caused such terrific damage during the present season. I have never seen such complete and extensive damage by any insect.

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By an unusual combination of circumstances -- and particularly because of lack of adequate funds -- control measures were not undertaken at the right time. Hessian fly control costs little or nothing, but because the control measures are largely or entirely of a preventive nature, an outbreak of the Hessian fly must be anticipated. Once wheat is badly infested, nothing can be done.

To control the Hessian fly, therefore, no new or expensive method is required; it is only necessary to appropriately time those operations that are usually practiced in good wheat culture:

Prepare a good seed-bed early and destroy so far as possible all volunteer wheat;

Make sure that there is plenty of plant food available in the soil so that the young wheat plants may go into the winter in good shape;

Select good seed and, if necessary, treat it for diseases;

And last, and most important, sow on dates recommended for your locality. These dates may be obtained either from your State Experiment Station or direct from the Bureau of Entomology, United States Department of Agriculture.

Farmers who observe these control practices will not only control the Hessian fly but will obtain the highest yields of the best quality wheat.